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Original Articles.

ON CONGESTION OF THE LIVER.

BY PROF. DUJARDIN-BEAUMETZ.

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PARIS, FRANCE.

CONGESTION of the liver is a symptom of a great number of diseases. I desire, then, to set forth as methodically as possible the etiology and pathogeny of these hepatic congestions, for they are affections which demand a kind of treatment directed to their cause.

In the symptomatology of hepatic congestions there is a symptom which occupies the first place, viz: the augmentation of volume of the liver. We can detect this increase of size by percussion and palpation.

I cannot but regard percussion as a very untrustworthy means of judging the increase of size of the liver. Many causes modify the lines of dullness of the liver. On the part of the liver itself, there is the tendency of the organ to tilt back and forth according to the position of the patient; we had an example of this the other day at the Academy, in a patient whom Gerard-Marchant showed us, where it was necessary to fix the liver *in situ* before its size could be determined. This see-saw movement of the liver accounts for the fact that sometimes on percussion we fail to detect augmentation of volume, and the autopsy performed subsequently shows the liver to be enormously enlarged.

Another cause of mistake pertains to the lung and intestine. Without speaking of pleurisy with effusion, of which the dullness is continuous with that of the liver, I may mention emphysema, which crowds the liver downwards in depressing the diaphragm and renders percussion of its posterior part very difficult.

On the part of the abdomen, pneumatosis of the stomach or intestine often makes it impossible to tell the exact limits of the liver.

These causes of mistake detract much from the importance of percussion in the attempt to define the inferior border of the liver.

We can really learn much more from palpation. But, in order to make the most of this means of exploration, you must require the patient to make full inspiratory movements, which force down the diaphragm and, along with it, the liver; then, with the hand applied over the abdomen, you may be able, owing to the relaxation of the abdominal wall, to penetrate beneath the costal margin, and make quite a satisfactory exploration of all the lower border of the liver.

At the same time, there are cases, where, despite this method, one is balked in the effort at exploration; it is when the bor-

der of the liver, instead of being applied to the abdominal walls, curves inward and is directed toward the posterior part of the abdomen.

Here you adopt Glenard's method. You not only endeavor to depress the liver by movements of inspiration, but you attempt to bring it forward to the anterior part of the abdomen.

The physician sits on the right of the patient's bed, facing the latter; the left hand grasps the right hypochondrium and loin, and the hand is so placed that the thumb is situated anteriorly, while the other fingers, placed behind, endeavor to push the liver forward towards the anterior wall.

As for the right hand, this is applied over the abdomen upon the median line, and endeavors to keep the entire region of the hypochrondrium on that side immovable.

Whenever therefore by simple palpation, you cannot succeed in exactly mapping out the lower border of the liver, you can put in practice the method of Glenard.

As for the general symptoms, some are quite characteristic. If in certain cases congestion of the liver is not accompanied with pain, in others the patients suffer in the hepatic region from darting, stabbing pains, or at least considerable discomfort in making strong inspirations.

There are also sensations of tearing or of constriction in the thorax under the xiphoid appendix when the patient assumes certain positions, and these symptoms do not depend so much on congestion of the liver itself, as on the peri-hepatitis which accompanies such congestions. Adhesions are formed around the liver, which cause these sensations of constriction in the thorax, and this especially happens when the liver tends to regain its ordinary volume.

Another very constant symptom is the modification of the urine. We may affirm that there is never a congestion of the liver without the appearance of urobilin, to which is joined bilirubin. Hence a careful chemical and even spectroscopic examination of the urine is necessary to complete your diagnosis of congestion of the liver.

To this alteration of the urine, we may add as elements of diagnosis a well-known modification of hue; the eyes have a slight brown color as well as the mucous membranes. Sometimes even there is a veritable icterus; but generally it is only this subicteric tint that you see in hepatic congestions. To these three cardinal symptoms: augmentation of volume, pain in the region of the liver, presence of urobilin in the urine, we must add the febrile symptoms.

Monneret, who has written much on this subject of hepatic congestions, insists on the remittent and intermittent type of the febrile phenomena in these congestions. This is, he thinks, a characteristic sign of these congestions.

To-day we have to modify this view a little, and if in hepatic congestions we frequently remark intermittent febrile phenomena, this is caused much more by infection of the liver than by congestion.

I have already told you in a former lecture that in the physiological state the bile contains no micro-organisms, and this, despite the intimate relation between the biliary passages and the intestine. But in the pathological state, the microbes penetrate the bile ducts and infect the liver. It is then, to this penetration of microbes that we must attribute those intermittent phenomena which sometimes take on a character of great gravity, constituting veritable attacks of pernicious fever.

By the side of these symptoms, there exist others which are quite important, and may be regarded as secondary symptoms. Thus we note an augmentation of volume of the spleen, troubles more or less important in the circulation of the portal vein and particularly the production of hemorrhoids. The presence of hemorrhoids in affections of the liver is a fact well known to the ancients.

The cardiac circulation may itself be troubled, and Potain has shown us what modifications are produced in the right heart in patients suffering from chronic affections of the liver.

Lastly, the digestive functions are themselves perturbed, and there results, in patients affected with hepatic congestion, a bad state of the general nutrition which entails a rapid emaciation and a very notable enfeeblement of the forces.

There is a secondary trouble which has considerable importance in therapeutics,

viz. : the production of certain hemorrhages and particularly of attacks of epistaxis. At the close of this lecture I shall refer to this subject again.

Some authorities, as Poncel and Glenard, have had much to say about the influence of congestions of the liver on the genesis of disease, and the former would make almost the entire pathology dependent on hepatic congestion. On the other hand, while some exaggerate the rôle of congestion of the liver, others, I think, make too little of it. In some recent treatises on hepatic affections, congestion of the liver is hardly treated of at all; thus, in the excellent treatise of Labadie-Lagrave, the chapter devoted to congestion of the liver is very short and is simply a chapter of etiology. I have the same criticism to make on the remarkable monograph of Chauffard in Volume III. of the *Traité de Medicine*, in which he discusses diseases of the liver and bile ducts; he occupies himself almost exclusively with the cardiac liver, *i. e.*, passive congestions. I believe that the truth lies between these two extreme opinions, and this is what I shall endeavor to demonstrate as I go on.

Before coming to the treatment, I must speak of the etiology of these affections and of their pathogeny.

Many divisions have been proposed in order to group together methodically the different causes of hepatic congestions; the division which I propose is the following:

In the first class I shall place those congestions which have for their starting point the digestive tube; these are congestions of gastro-intestinal origin. This group is much the most numerous and we shall have to establish a number of sub-divisions in order to be able to study them in their entirety.

In a second class we shall study congestions of infectious origin; hepatic hyperæmia connected with the infectious diseases, with malaria, will be ranged in this group.

In the third class, we shall place the diathetic congestions, *e. g.* the hepatic congestions so frequent in the arthritic.

In a fourth group will be found the congestions of mechanical origin, whose type is the cardiac liver.

Lastly, one might in a fifth class range the hepatic congestions which result from a local cause, or which precede the inflammations of the liver; wounds of the liver, the foreign bodies of this organ, hepatitis, etc., belong to this group. But as this class does not demand special consideration from a therapeutic point of view, I shall simply mention it *en passant*, and shall now take up the study of the first group.

The hepatic congestions of gastro-intestinal origin are the most interesting, especially from a therapeutic standpoint.

In order to study them well we must make the three following sub-divisions : 1. The congestions of purely alimentary origin; meats too excitant, aliments badly masticated, alcoholic liquors, etc., belong to this group. 2. The congestions due to toxines, whether these toxines result from bad functioning of the digestive tube, or whether they depend on the aliment itself. 3. Poisoning by lead, arsenic-phosphorus, etc., which determines congestive phenomena of the hepatic gland.

Let us examine briefly these three subdivisions. One of the most frequent causes of hepatic congestion is excess in eating, and we may say that all high livers and all great drinkers are subject to these congestions.

In countries where the inhabitants eat to excess; in Germany, in Russia and the departments of the North of France these congestions are very frequent. They are also often observed at the sea-side in persons who frequent the different maritime resorts during the summer time. Thanks to the exercise taken and the keen bracing air, the appetite notably increases, and by reason of the full, rich diet of these sea-side hotels, these summer visitors rapidly have congested livers.

This congestion is the rule, when, to the conditions I have enumerated, is conjoined a high temperature, as in all tropical climates.

Rapidity in eating and incomplete mastication, by favoring gastro-duodenitis, also predispose to congestion of the liver, by the intermediation of the bile ducts, which become inflamed.

But alcohol is incontestably the most frequent exciting cause. You well know that all liquids introduced into the digestive tube are absorbed by the radicles of the

venæ portæ and traverse the liver, and that any and every irritant liquid may be a cause of congestion of that gland.

It is in this way that lead, arsenic, copper, and other poisons, by fixing themselves in the liver, determine temporary or chronic congestions of that organ. In the same way congestions are brought about by the absorption of toxines concontained in the food; spoiled fish, tainted game, stale salads, etc., are causes of congestion of the liver, which may sometimes take on great intensity. These congestions are easy of explanation; they are a simple consequence of exaggeration of function of the hepatic cells.

In other cases, the toxines which cause the congestion do not come from the food, but are produced in the gastro-intestinal tube by reason of its imperfect function. It is to Bouchard that the merit belongs of having first pointed out the predisposing influence of intestinal dilatation in the production of congestions of the liver.

The vicious fermentations which result from dilatation of the stomach lead to the formation of putrid products, which are absorbed at the surface of the intestine and irritate the hepatic cells.

Quite as important a rôle should be attributed to the large intestine. It is especially in the formation of fæcal matters that the absorption of those putrid products is most readily effected; products which determine a series of pathological symptoms to which Bouchard has given the name of *stercoræmia*. This absorption is hastened by the loss of the epithelium and by the ulcerations which are produced on the surface of the mucosa. It has long been known that in dysentery the ulcerations are the point of departure not only of congestions of the liver, but even of suppurative hepatitis.

Typhoid fever forms an intermediate group in which we find as causes of congestion of the liver both local alterations of the intestine (the ulcerations of Peyer's patches) and the presence of a special microbe in the economy.

In the description of the forms of typhoid fever which Chedevergne has given, he has described an hepatic form. There are in fact cases of typhoid fever with marked congestions on the part of the liver. It is a true bilious form of typhoid. But it may also be said that most infectious diseases may be accompanied with congestion of the liver.

Since Laveran has shown that special organisms develop in individuals affected with malaria, we must include in this group of infectious congestions the hyperæmia which is caused by malaria. It may be affirmed that there is never a case of profound marsh-poisoning which is not accompanied with congestion of the liver. This is a most frequent cause of congestion in the warm countries of Europe.

Certain diatheses are a cause of congestion of the liver; these are dyscrasic causes. Thus, in the arthritic and herpetic, we find frequent congestions of the liver. These patients are liable to dilatations of the stomach or to attacks of gall stone colic, and it may be pertinent to ask if these congestions may not depend on one or the other of these causes?

Every patient suffering from an organic affection of the heart, the muscular walls of which can no longer suffice for the task which is imposed upon them, has congestion of the liver (the so-called *passive* or *mechanical* congestion), which results from stasis of the blood in the right auricle and by propagation in the inferior vena cava.

The affections of the right heart entail this mechanical congestion. In tricuspid insufficiency, this congestion is the rule. But there cannot long be a left-sided valvular disease without similar mechanical congestion, for the aortic or mitral lesion causes stasis in the lesser circulation, which soon brings on distention of the right heart and all the mechanical troubles of which I have spoken. All asystolic patients have that subicteric tint so characteristic of hepatic congestion, and they have weight, and pain, and tenderness over the region of the liver.

In his description of the cardiac cycle, Peter has well shown the influence of congestion of the liver on the production of that general state called *cardiac cachexia*, and he has shown how the disease, from being first absolutely local, becomes finally general.

Under the head of treatment, I should

first consider that which is addressed to the first cause of the hepatic hyperæmia, then the treatment of the congestion itself; and here the general division into active and passive hyperæmia will be convenient.

For active congestions, we have the following therapeutic resources: (*a*) revulsion, (*b*) intestinal antisepsis, (*c*) dietetic regimen.

There has of late been much dispute as to the value of revulsion, and in the recent discussion respecting the treatment of pleurisy, you have seen how divergent are the opinions of physicians concerning the utility of the blister in this affection. For my part, I am a partisan of the vesicatory in pleurisy in certain stages and I believe firmly in its utility and that of other revulsives in the active congestions of the liver.

If you employ vesicatories, use large ones; I believe also that punctiform cauterizations are useful in some cases. Cupping has also been advised; our fathers made much use of leeches. These are confessedly means which have gone much out of date.

By the side of revulsion, I place hydrotherapy, which is an admirable method for obtaining resolution of chronic congestions of the liver. In malarial patients with large liver, and in the hepatic congestions of hot climates, local douches over the liver produce a favorable action.

All the hydriatic means may be put in usage. Percutent douches, circular douches, the wet pack, cold compresses, alternant douches, Scotch douches, etc. —only it needs great prudence and a very experienced hand to direct this hydrotherapic treatment, for by douches administered too harshly, you may augment instead of reducing the congestion of the liver.

Cold lavements have long been used in cases of congestion of the liver. It seems demonstrated that these lavements augment the secretion of bile and decongest the liver. I am in the habit of adding to the cold lavements an antiseptic, naphthol alpha, for example, in the dose of about five grains to the quart.

In order that these lavements may have their complete effect it is well to make use of Cantani's method, and to employ the enteroclyser. The apparatus which I use was made by Galante, but an ordinary fountain syringe will answer the purpose very well. The long rectal tube should be inserted, and as high up as possible, and the patient should lie on his back with the hips somewhat higher than the rest of the body, and the fountain or bag containing the naphthol water should be elevated as high as possible that there may be a continuous steady flow.

At least a quart of liquid should be employed for each lavement, which should be kept up a few minutes, and then voided. In all cases where the congestion of the liver is associated with constipation or other troubles of functions of the large intestine, these irrigations are obligatory.

Are there any medicaments which have a decongestive action on the liver?

I do not think that there are, nor do I believe that we are in possession of a medicine having a special elective action on hepatic hyperæmia. But there are medicines which have a favorable action, indirect it is true, but none the less manifest, on these active congestions. These are the alkalies, iodide of potash and certain substances which promote diuresis.

The alkalines certainly favor the functions of general nutrition and combat congestions of the liver. It is upon this fact that are based the favorable results which are obtained from thermal alkaline waters. The success which has been obtained from the waters of Vichy, Marienbad and Carlsbad, and even from the cold waters of Vals are a certain proof of this action.

It is well to remark that the salts of soda seem particularly indicated here; the salts of lithia, on the contrary, so favorable in uric diathesis and in the renal affections, produce no effect in hepatic congestions.

Of course it is not the alkaline waters alone which are indicated in hyperæmias of the liver; all the mildly purgative waters, in decongesting the intestines and the portal system, may have a favorable action. I will mention in this connection, the waters of Chatel-Guyon; also those which are applicable to the primitive diathesis, as the waters of Roy-

at, Kissingen, Sainte-Nectaire, etc.

Iodide of potassium is a medicine favorable in certain hepatic congestions, and its resolvent action becomes strongly felt. In addition to the effect of the iodide on the circulation, it is certain that this medicine has effects on nutrition, and it is by this double nutritive and circulatory action that one may explain the happy results which are obtained from the iodide in hepatic congestions.

The action of other medicines is more questionable. Poulet (of Plancher-les-Mines) has vaunted hippuric acid, and has made a syrup of this acid of which the following is the formula: this he habitually prescribes in hepatic hyperæmia.

℞—Hippuric acid, pure . . 25 gr.
Milk of lime . . . . q. s. to neutralize.
Syrup . . . . . 500gr.
Essence of citron or anise, q s.

Dose, from four to five spoonfuls of this syrup per diem.

I have sometimes obtained very good results from this syrup in certain cases; but it is by acting, I believe, as a diuretic that this favorable action of hippuric acid may be explained.

I may say the same of boldo, which I studied many years ago with Verne. Boldo, which has been much praised, especially in South America, in hepatic congestions, acts as a diuretic and should be placed in the same group as hippuric acid.

To all these agents it is necessary to add rigorous intestinal antisepsis, and this by means of special medicines and an appropriate dietetic regimen.

Do not forget, in fact, that hepatic hyperæmia, by modifying the functions of the hepatic cells, destroys the antiseptic properties of these cells, so that the liver no longer constitutes that living barrier which in the normal state opposes the penetration into the organism of toxines absorbed from the surface of the digestive tube. It is therefore necessary by a special treatment to reduce to their minimum these toxines, and this treatment is based on antiseptic wafers (*cachets*), on the one hand and the vegetarian regimen on the other.

For these cachets you will adopt the two following formulæ; the first is applicable to hyperæmia of the liver complicated with diarrhœa:

℞—Salol . . . . . } aa 10 grammes.
Salicylate of bismuth . . }
Bicarbonate of soda . . }
Divide into 30 cachets.

The other formula, on the contrary, is designed for congestions of the liver acconpanied with constipation:

℞—Salol . . . . . } aa 10 grammes.
Benzo-naphthol . . . }
Bicarbonate of soda . . }
Divide into 30 cachets.

It is well understood that if the diarrhœa or constipation is very obstinate, you will substitute for the bicarbonate of soda, in the first formula, prepared chalk in the case of diarrhœa, and in the event of constipation, magnesia.

The rôle of laxatives in congestions of the liver is very important. Laxatives are, in the first place, the means for eliminating intestinal toxines; moreover, by the intestinal secretion which they provoke, they decongest the portal network; lastly, their cholagogue action, in favoring the flow of bile, produces also a favorable effect. It is, then, to the saline and cholagogue purgatives that you will have recourse; the sulphate of soda waters (Villacabras, Hunyadi-Janos, Rubinat); cholagogues, such as podophyllin, euonymin, cascara and its derivatives.

Calomel has been much vaunted both as a cholagogue and decongesting agent of the liver. In England it is the usual medicine in the treatment of hepatic affections. I confess that I have had little experience with calomel for the reason that I have always been afraid to use it. It has always seemed to me that in patients to whom I have given calomel for any considerable length of time, I have observed symptoms of hydrargyrism; and if calomel in large doses, of 7 to 15 grains, may exceptionally constitute a good laxative and purgative medicine in constipated hepatic patients, I believe that if we are to continue this purgative action, we must abandon calomel and have recourse to other cathartics.

As for diet this will be largely vegetarian; you will order milk, eggs, starches, green legumes or other fresh vegetables and fruits.

As for meats, you will prefer the rare-done juicy meats, such as are thoroughly

cooked and gelatinous; such as calves' head, lambs' or pigs' feet, beef *a la mode*, calves' foot jelly, mutton stew, "fricandeau" fowl with rice dressing (*poulet au riz*), and you will prohibit fish, mollusks, crustaceans, game, cabbage and old cheese.

In allowing bread you will require your patients to eat the crust instead of the crumb, and to use no drink but milk, water or a little white wine diluted with Vichy.

Such is the alimentary regime which you will prescribe for your patients who are affected with congestion of the liver.

Thus far we have been occupied only with active congestions and I must now speak of such as are passive. Here it is the heart which especially demands treatment. It is the weakness of its contractions which entails venous stasis in the liver, and if you can tone up this organ, you will rid the liver of its excess of blood.

All the heart tonics are indicated: digitalis and digitalin, strophanthus caffeine, etc. Since the writings of Potain and Huchard have shown us that the failures which we had previously had with digitalin were due to the small doses which we had been in the habit of employing, we have been obtaining good results from the solution of crystallized digitalin in the dose of one milligramme per diem. The formula which I use is as follows:

℞—Crystallized digitalin (soluble in chloroform) . . . . . 1 cent.
Alcohol at 90° . . . . . 9 gram.
Glycerine . . . . . 6 gram.
M.

Sixty drops of this solution represent one milligram digitalin. I give, then, three times a day 20 drops of this solution to asystolic patients. In this form I insist on the solubility in chloroform, which enables us to distinguish the French from the German digitalin; and as the latter is fifteen times less active than the former, you see the importance of well indicating the digitalin which you wish to employ.

Strophanthus also gives me very good results. I make use of the French 20 per cent. tincture, of which I give five drops twice a day, or granules of the extract of strophanthus, one-fourth milligram each, of which four a day are given.

Lastly, in certain cases of fibrous degeneration and sclerosis of the myocardium, caffeine, in subcutaneous injections, often does good. To this treatment it is necessary to add purgatives, and here it is the drastics that we should employ. Lastly, the vegetable regimen is important; Potain goes farther, and counsels the exclusive milk diet.

In conclusion, it remains for me to speak of the treatment of the secondary accidents which spring from hyperæmia of the liver, and I wish to say a few words about the treatment of hemorrhages by the application of revulsives to the hepatic region.

Galen, long before Fernel, had mentioned this favorable action of revulsives applied to the region of the liver in the treatment of epistaxis, and he taught that if the bleeding came from the right nostril, the revulsion should be made over the liver, and if from the left, over the spleen.

Gubler, Monneret, and others have also insisted on the frequency of nasal hemorrhages in hepatic affections. But Verneuil and his pupils the last few years have dwelt particularly on this point. In a communication made to the Academy of Medicine in 1887, Verneuil called attention to the treatment of certain cases of rebellious epistaxis by the application of blisters over the liver, and he cited in support thereof a great number of personal observations, going back to 1872. Since then many similar cases have been reported, particularly by L. H. Petit and by Harkin, both of whom arrive at this conclusion, that in patients affected with rebellious hemorrhages, it is necessary to examine with great care, the region of the liver, and even that of the spleen, and if there is reason to refer the hemorrhages to the one or the other of those organs, to apply revulsives over those regions according the practice of Galen.

These hemorrhages may, moreover, take place from the lungs instead of the nose, and even from the anus. Bear in mind that the energy and the duration of the revulsion should be in proportion to the intensity of the hemorrhage, and if the vesicatory does not suffice you must have recourse to punctiform cauterizations.

We have not as yet any satisfactory

explanation of this action of hepatic congestions in the production of these hemorrhages. In the discussion which was awakened after the reading of Verneuil's communication, Colin, of Alfort, proposed a mechanical theory based on modifications of the conditions of the circulation. For my part, I have believed that the functional troubles of the hepatic cell modify the hematopoietic functions of the liver, and that it is chiefly in altering the character of the blood that congestions of the liver favor hemorrhages. This view has also been supported by Harkin. Verneuil,on the contrary, thinks that it is by reflex action that revulsion does good in these hemorrhages. Whatever may be the view which you may adopt, the fact is none the less real, and one ought always to have it in mind when called to confront obstinate hemorrhages of the kind mentioned.

INTESTINAL ANASTOMOSIS WITHOUT MECHANICAL DEVICES AND CIRCULO-LATERAL ENTERORRHAPHY.*

By JOHN D S. DAVIS, M. D.

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ANASTOMOSIS is unquestionably the best means for the restoration of gut caliber. No method of bringing gut ends together has yet been devised that can be relied upon to render the coaptation of the mesenteric margins safe and exempt from sloughing. The most reliable methods are unsafe and dangerous.

Experimentation has led me to the conclusion that while my anastomotic cat gut and horseshoe plates are the best mechanical device yet suggested, for the reasons given in my published papers, but I am thoroughly convinced that no mechanical aids are at all necessary. By means of the plates, the operation can be completed a little earlier but the results are no better. The technique of intestinal anastomosis withont mechanical devices is as follows.

All the preliminaries as to the preparation of patient, parietal incision, etc. I waive,and will only describe the work on the bowel. In case of a resection of ilium, the resected gut and its mesentery are removed and the open ends of the bowel are each closed by means of a double running suture of silk. The intestinal contents are stripped back from each free end of the bowels for eight or or ten inches and the intestines handed to an assistant who holds the free ends in opposite side by side while the operator incises the two guts with a scalpel as far as possible from the mesenteric border, making an opening double the size of the caliber of the intestine. The assistant does not release his hold during the entire procedure but clamps the intestines sufficiently to prevent the return of its contents. After the openings have been made, the assistant slackens the parallel guts so the operator can make the outside safety sutures on the mesenteric margin before the coaptation of openings is made.

I am in the habit of approximating the bowels, serosa to serosa, without denuding the serous surfaces, as the handling produces sufficient contusion and outflow of plastic lymph for all practical purposes. I use the intra-loop sutures of silk and then continue the outside safety sutures clear around the anastomotic opening. If the running sutures are used, leakage may result from a draw, tear or giving of the bowel. If the interrupted sutures are taken, it will be impossible for leakage to occur. The free ends are anchored to the bowels by means of two or three interrupted sutures, and the mesentery closed by the same suture placed horizontal with the mesenteric blood vessels. In large openings on the convexity of the bowel, where I have been in the habit heretofore of closing by means of my horseshoe cat gut plates,I now close by means of intra-loop sutures (imitating the hinge) and making secure by means of the outside safety sutures which gives the same results and increases the gut calibre at the point of operation. In all operations for intestinal repair after resection, anastomosis should be resorted to. Whenever the bowels are brought together end to end, there is usually a disturbance of the blood supply at the mesenteric juncture to such an extent that sloughing in the majority of cases will occur. In the operation of circulo-lateral enterorrha-

*Presented at the Fifth Annual Session of the Southern Surgical and Gynecological Association, November 16th, 1892. Louisville, Ky.

phy[1] the bowels are approximated at the expense of the convexity of the bowel in such a manner as to increase the caliber of the gut to any extent desired, but it is an unsafe procedure. The operation recently devised by Dr. Briggs, of St. Louis, in which he turns back all the coats of the distal end of the bowel, except the mucous like a cuff and approximates by draw suture is not free from danger of leakage from suture fistula due to the fact that the sutures pierce all the coats of the bowel. While the omental graft may, in a great measure, lessen the risk of leakage, the danger is too great to recommend the operation as at all practicable. In fact, no operation that contemplates the approximation of the mesenteric border of the bowel is safe and reliable. The operation of circulo-lateral enterorrhaphy I formerly recommended from the fact that the intra-loop sutures are taken parallel to the vessel of the mesentery and the blood supply is not apparently cut off, but the risk is very great from cutting off the blood supply owing to the strain on the vessels. The danger is also due to the cutting out of the safety sutures at this point of the approximation. Dr. Briggs has introduced the method of keeping the bowel outside of the abdomen until repair takes place.

If a circular enterorrhaphy is done, by all means the bowels should be kept on the outside. Not for the reason he recommends, though, but because we never know when we are going to get a leak at the mesenteric approximation. Dr. Briggs brings the bowel outside because [2] peristaltic action of the bowel, in a great measure, is controlled and the muscular jerking relieved. The tissues at the mesenteric border of the bowel are so frail and delicate that it is almost impossible to make an outside suture sufficiently tight without cutting or tearing the tissues, and I cannot endorse any operation that requires a keeping of the bowel on the outside of the abdomen until reparation takes place. If, then, this is necessary, we had better make an artificial anus and close afterwards by a secondary operation. The only operation for closing the bowels end to end approximation, that theoretically recommends itself sufficiently to lead the operator to attempt it, is that of circulo-lateral enterorrhaphy,[3] in which the bowels are approximated at the expense of the convexity of the divided ends, which prevents constriction and enables the operator to make a caliber any size desired, but experiments with this operation by my brother have demonstrated that it is unsafe. In all operations heretofore, in which the intestines were brought end to end, all methods of suture would cause a constriction of the bowel at the point of union to such an extent that the caliber was incompetent for physiological purposes. Wherever the bowels are brought together end to end, there is usually a cutting off of the blood supply to such an extent that sloughing, in the majority of cases, occurs, but in the operation herewith described constricting of the caliber is an impossibility, but sloughing is rare. There has been a constant desire on the part of the profession to do away with the operation; but, so far, all efforts have proven useless. By anastomosis, the bowel can so easily be restored to its integrity, and with such little danger that any other procedure, as a substitute, would not be attempted.

Anastomosis is a procedure that is not only justifiable, but can never be easily done away with. There are certain conditions of the bowel in which resection is not to be thought of, and to render the bowel competent, a collateral circulation must be established; and to do this, there is no means that is so justifiable, available and easy as that of anastomosis. When we he have a stenotic condition of the intestines, it is always preferable to flex the bowel and approximate laterally rather than resect and restore the bowel by end to end approximation. Too, there are stenotic conditions of the stomach and bowels that result from malignant growth and tubercular deposits, necessitating lateral approximation without resection. We can approximate the intestines end to end in such a way as to

[1] See experiments of Dr. W. E. B. Davis, in Alabama Medical and Surgical Age, August number, 1892.

[2] St. Louis Medical and Surgical Journal for October, 1892. P. 215-218.

[3] Alabama Medical and Surgical Age, July 1, 1892. P. 292-294.

make the caliber any size we choose, but as stated the operation is unsafe and I describe it only to condemn its practice After the resection, the mesentery of the resected gut is left in situ, and the ends of the intestine are brought together by intra-loop sutures that are tied on the inside of the bowel. This suture is first made on one side and then on the other of the mesentery. They are continued in interrupted loops until the bowels on each side are approximated to about one half, then to increase the caliber of the gut an incision is made in the convexity of the approximated ends to any extent desirable or necessary to make the gut caliber large enough for all physiological purposes, and the corners trimmed off. After this incision is made the line of loop sutures is continued until the two slits in the bowels are approximated just as the ends of the bowel. The last suture is tied and then pushed inside of the gut by means of a needle or small pair forceps. After this, interrupted outside sutures are rapidly carried around the line of union approximating the serous surfaces beyond the needle openings made by the internal loop sutures. The bowel is lapped in the mesentery which has been trimmed from the resected bowel and is held by two or three interrupted sutures. The mesentery becomes ingrafted upon the bowel, doubly protecting the line of suture and prevents intussusception or invagination.

In gastro-enterostomy, the end of the bowel may be brought in direct contact with the stomach by these intra-loop sutures in such a way that the gastro-intestinal opening can be made any size desirable in gastro-enterostomy; if the intestine is very small, we have only to slit up the intestine and bring the lateral sides in union with the stomach.

The approximation in an entero-colostomy is made just as a gastro-enterostomy. In all operations of circulo-lateral coaptation, the mesentery, if possible, should be utilized for protecting the line of sutures. Whenever this is done, the mesentery is so shortened as to prevent the invagination and volvulous of the bowel at this point.

I have been able to succeed in protecting the bowel by the mesentery left from the resected intestine, but when I have been most careful and done the operations most satisfactorily, the leakage at the mesenteric junction has occurred and produced peritonitis and death. I am thoroughly convinced that any operation that gives so great a mortality as end to end approximation should never be resorted to. I have here only alluded to the operation, because I have heretofore, in my enthusiasm, recommended it, and now desire to place my condemnation on it as an unsafe procedure. The responsibility of recommending surgical procedures is very great, and an endorsement should only be given to such operations as have been thoroughly tested by experimentation.

THERAPEUTIC NOTES.

TRANSLATED BY E. W. BING, M. D.
CHESTER, PA.

POISONING BY ANTIPYRINE.—M. Guttman, five years ago, noted a case of poisoning by antipyrine, in a fifteen grain dose. The symptoms were great agitation, acceleration of pulse, disturbance of vision, and urticaria, lasting for two days. Recently a fresh case occurred to him offering a great resemblance to the first case. The patient was in profound collapse, and cramps of the legs, vomiting, hoarseness, imperceptible pulse, temperature 94°. It was considered at first a case of cholera, but as there was no diarrhœa, that idea was rejected. Following up the examination an eruption was observed on the chest and abdomen of miliary, dark, rose-colored spots, sharply defined but scarcely elevated. The patient complained of violent headache, ringing in the ears, and disturbed vision, loss of sensation in the fingers, and a feeling of "lead-like" heaviness of the tongue Poisoning was suspected; but the patient said that having been affected with bad headache for some years, he had used various drugs including phenacetine, without relief. Lately he thought of trying antipyrine. He took one gram and experienced some relief, but felt some vertigo and disturbance of sight He continued to take two daily doses of antipyrine of fifteen grains each. The sensory troubles increased. He had taken in all ten grams of antipyrine when he was found in the above con-

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dition. Stimulants were used and he promptly recovered. M. Guttman advises small doses of antipyrine at commencement, to be increased if necessary.

ALUMNOL.—Heintz and Liebrich, who introduced dermatol (bismuth subgallate) into the materia medica, have continued their studies in that direction. The new compound, alumnol, which they have just presented, is more powerful than dermatol; it is in fact at once astringent and antiseptic, but the property that distinguishes it absolutely from similar bodies is that after having precipitated albumen, instead of forming with it insoluble albuminates, as, for instance, sublimate does, alumnol is redissolved in presence of an excess of albumen. This singular property, which it possesses equally with regard to gelatine, renders it of great advantage. Alumnol is formed by combining alumina with sulpho-naphtholic acid, and contains 5 per cent. of alumina and 15 per cent. of sulphur. It occurs as a white powder, very soluble in water; on heating, water will take up more than 40 per cent. and the salt is not precipitated on cooling. The reaction is feebly acid. Soluble in glycerine, less so in alcohol, and insoluble in ether.

The property which this body possesses of not forming insoluble compounds with albumen renders it of great service in the treatment of cavities or sinuses. The antiseptic power of alumnol, when used to destroy bacteria, is not very marked, but it exerts a restraining, or even preventive, action against the development of the microbes. A solution of 1 to 250 absolutely arrests the vegetation of various microbes. This body is on the other hand extremely astringent, but strong solutions, 10 per cent., are not caustic.

The toxical effect of alumnol depends on its astringency, when injected into a blood vessel, in consequence of the formation of thrombi; but in ordinary use it does no harm.

The indications for its use may be deduced from its chemical and physiological characters. It has given good results in the treatment of suppurating wounds, as a watery solution of from 5 to 20 grammes per thousand, if the wound is rather large; and stronger, if the reverse. Ulcerations, especially leg ulcers, are rapidly modified and even cured by dressing with a solution of from 3 to 6 per cent. It may be mixed with talcum or starch and used as a dusting powder.

When used in the treatment of affections of the skin, it may be employed as an ointment, 5 per cent. in eczema; psoriasis, etc., or it may be incorporated with collodion. It may also be used with advantage in gynecology, as injections, or as crayons, or ointments. It is valuable in gonorrhœa, used in strength of 1 to 2 per cent. of water, also in nasal or aural diseases.—*La Medicine Moderne.*

News.

The Quarantine Bill passed the House on January 23, and at that date seemed likely to pass the Senate.

The bill as it passed the House requires all vessels clearing for the United States to obtain from the Consul or Vice Consul at the port of departure a bill of health. The President is authorized to detail a medical officer to serve in the office of the Consul at any foreign port for the purpose of furnishing information and giving the bills of health. The Marine Hospital Service shall co-operate with State and municipal Boards of Health in the enforcement of the rules of such board, and the regulations prescribed by the Secretary of the Treasury to prevent the introduction of contagious and infectious diseases into the United States from foreign countries and from one State into another; but nothing can be construed to warrant a Federal official in relaxing State rules. On the arrival of an infected vessel at any port not provided with proper facilities for treatment, the Secretary of the Treasury may remand the vessel to the nearest national or other quarantine.

THE sudden death of Bishop Phillips Brooks has caused universal regret. The death appears to have been caused by heart failure, due probably to diphtheritic endocarditis.

A special number on Diphtheria is in preparation.

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SANITARY MATTERS IN PHILADELPHIA.

THE sanitary condition of the city, and the operations of the Bureau of Health, are matters of interest at all times, and of paramount importance at present. We are now having a breathing spell, while the frosts of winter have stayed the march of cholera. But every one knows the disease is only checked, not destroyed; and that the Spring will witness its recrudescence. Even now the occurrence of cholera on shipping in the Elbe indicates that the water of that river is still being polluted by virulent cholera germs; while in a number of French, Belgian and German towns, the continued outcropping of ioslated cases shows that the pestilence is still alive, and only waiting for the proper time to begin its career of devastation.

The course to be taken by it is not a matter of chance. Among the certainties of sanitary science is the rule that the better the hygienic condition of a city, the less likely is it to be invaded by epidemics. The seeds of infectious disease, and a suitable soil for their germination, are the two essential factors for the development of a pestilence. The exclusion of the invading germs by quarantine is always problematic, rarely successful; the alternative means of defence is fully within our reach. We can be clean if we will take the trouble. Every day of this time of respite should be spent in hunting out and cleaning up every nest of filth where disease germs may find a congenial home. For this work, the Bureau of Health is not alone to be depended upon; under its present organization. The difficulty lies in the limitation of its powers, the parsimony exhibited towards it by Councils, and the division of authority. Frequently, nuisances have been reported repeatedly by the inspectors, but nothing has followed. It is of very little use to report a nuisance, unless it is removed. People lose faith in the Board, when repeated notification leads to no real amelioration of the difficulty. Cases occur in which prompt action is urged; and the red tape is reeled out for weeks before the end is reached. When a nuisance is reported, the owner receives a notice to have it remedied within three to five days. Then the inspector calls to see if the notice has been obeyed, if not, he reports to the office; the report goes to the Chief Clerk, and from him it is returned to the Health Officer. If the cost of removing the nuisance be under $50.00, the Health Officer then may order the work done; at the end of six to eight days after the original report was made. But if the cost exceed $50.00, he must advertise for bids in three journals for ten days, adding 33 per cent. to the cost, open the bids at the next meeting of the Board, and can then enter into a contract to have the work done. In all, this will require about 25 days; and unless

the contractor is unusually brisk, a full month will elapse before the nuisance has been suppressed.

This state of affairs is due to the bad organization of the Bureau; for its personnel could not easily be improved. The Board cannot appoint an officer or expend a dollar for the most obvious emergency, without first obtaining authority from councils; an uncertain and dilatory method of dealing with a threatened danger. A typical instance of this difficulty occurred recently, in quarantining diphtheria cases. The Health Officer was notified that all bills for the year must be presented by Dec. 29. Many of these were for privy cleaning; items that cannot be estimated with accuracy, because no one can tell how large is the quantity that will be removed. The funds were running low, and as the law renders the Health Officer criminally liable for spending money in excess of the appropriation, he ordered the quarantine to be discontinued until the bills had been received and counted. This was done; and as there proved to be a small balance unexpended, the quarantines were restored.

The continued prevalence of diphtheria is not due to laxity of the Health Bureau, but to the narrow limits of their powers. Physicians are exceedingly negligent in sending in their reports. It is by no means unusual for cases to be reported only after the child's death; or after several weeks' illness, during which the other members of the family attend school and church, shop or factory; neighbors come and go unrestricted, and the disease has been propagated in a dozen different places before the report reaches the Health Officer. The law ordains that reports shall be made as soon as the diagnosis has been made; but the doctor may decline to diagnose during life! Or, he may maintain that the disease is not really diphtheria. One alleged physician treated three children who died within a week, of what he termed "malignant ulcerative tonsillitis," and never reported them. The house was a model of bad sanitation. If any means could be devised that would induce our city physicians to report their cases promptly, the greatest obstacle to the stamping out of diphtheria would be removed.

But this is not the only difficulty. Diphtheria does not spread by contact nearly so often as by other means. It tends to haunt houses, and to spread along filthy gutters and alleys. In inspecting over 3000 cases of scarlatina, typhoid fever and diphtheria, this conclusion was clearly warranted by the facts. Rarely could the affection be traced to direct contagion; but a filthy alley or gutter would carry it from house to house. The gutter is part of the street, and comes under the jurisdiction of the Highway Department. Any complaint as to a gutter, gorged with offensive matter, is received at the Health Office and transmitted to the Highway people; and is not likely to be remedied before the sick child is buried.

As to the alleys, the condition is even worse. The cost, per house, for cleaning an alley is but a few cents. To avoid instituting an infinite number of suits for trifling sums, it has been found advisable to utilize the disinfecting tank procured last summer. With this apparatus over 8500 filthy alleys, gutters and back yards, and over 8300 foul cesspools, have been disinfected. But within a week the nuisance will be reproduced. The Health Officer should have authority to have all nuisances corrected at once; and to have those due to negligence inspected regularly, and penalties imposed on those who allow nuisances to form on their premises. The same observation applies to the gutters, alleys, back yards, empty lots, and cellars; once reported as in filthy condition, they should be in-

spected weekly thereafter, until the people concerned have acquired habits of cleanliness.

The entire absence of public urinals renders the fouling of alleys inevitable. We will not dilate upon this subject, knowing well that any movement towards supplying the city with these well-named *necessaries*, would be met by the united forces of the saloonocracy. But how the city is to be kept clean without them is a question for our city solons to answer next Spring.

It is evident from repeated publications in the *Ledger*, that there is an agitation in favor of a Diphtheria Hospital on foot. The absence of any method of properly separating the various cases treated at the Municipal Hospital, shows that building to be unfit for its purpose. A special diphtheria hospital would only partially meet the difficulty, and that not in the best way. What we need is a municipal hospital such as New York has, on North Brothers' Island, with separate pavilions for each disease, and a detention hospital for suspected cases, or exposed individuals. The present municipal hospital is situated on ground needed for residences. It is a hindrance to the development of a large and valuable section of the city, and its removal is earnestly desired by its neighbors. There is not a ward in the city that would not oppose most energetically the location of the hospital within its limits. The most eligible site is undoubtedly Petty's Island. The present hospital grounds could be sold for enough to purchase this island, and erect on it all the buildings required for a complete, modern hospital for contagious diseases, with a central administrative building, radiating wings for various diseases (built of wood, so that they could be burned when necessary), and suitable quarters for persons under observation. The isolation best attained on an island, the ease with which patients could be conveyed there from vessels without traversing the city, and many other considerations, favor the location on Petty's Island.

If we expect an administration of the Health Office as efficient as that of New York, we must invest our Board with equal powers, and increase its resources far beyond the present narrow limits. Meanwhile, it is folly to find fault with officers for not doing what they are not empowered to do; and until this change has been made, the citizens should take the matter in their own hands, by the formation of block sanitary committees.

THE MEDICAL EXAMINERS' BILL.

WE give in another department the full text of the Medical Examiners' Bill, to be presented to the Legislature this Winter. It will be seen that the Board is to be appointed by the Governor, who is not restricted in his choice by any question of schools or pathies. The only examination on drugs is that upon toxicology, which is about as good a solution of this vexed question as could be reached. The bill is an eminently just one, and we fail to find any objection to it that can fairly be urged by any school. Of course, the Governor may appoint all the members from the homœopathic, eclectic, or hydropathic ranks, or from our own number; but it is unlikely that any discrimination will be shown. Commenting on the proposed law, the *N. Y. Medical Times* says:

"We do not see what more could be asked by any school of medicine than this, in the way of protection of its rights.

"There are good honest men on both sides of this controversy, men to be trusted, but they have no confidence in each other. Each party feels that the other is trying to gain improper advantage, and how to get over this complica-

tion is the question. If the leaders on both sides could know each other better, it would certainly tend to promote confidence and harmony. If the homœopathists could be satisfied that their scheme of therapeutics was not in danger, they would be less suspicious. The dominant school would be satisfied, no doubt, with the wiping out of all sectarian designations:

"The records show 8248 physicians in the State. Of these, 6240 are denominated "regulars" for the sake of comparison: the sectarians number 1075; those practicing without diplomas, 933. The homœopathists claim 691, and the eclectics, 293. It must be evident to any one that a board consisting of three members from each school, would not be justified by the above ratio.

"It is well known what the result would be were there three distinct boards, the least qualified students would get through the weaker board as was the case in this county some years ago.

"It is the wish, so far as we know, of all medical men in good standing, who have the best interests of the public welfare uppermost, that each State shall have a Board of Medical Examiners before whom all candidates shall be examined, and the method to bring about this result should be made as simple as the circumstances will allow, and each school should be anxious that no injustice is done to any."

We trust that this view will be that adopted by all branches of the profession, and that the bill will pass without opposition. It does seem as nearly perfect as it is possible to get it, and should have the support of every person really interested in elevating the standard of medical education. For years, however, the sectarian practitioners have shown themselves able to manipulate certain political influences so as to defeat any bill that did not place the entire control of medical education and practice in their hands; and it is likely the same influences will be exerted again.

Letters to the Editor.

CHOLERA—RAG—QUESTION:

AND DISCIPLINE OF DR. S. T. ARMSTRONG, BY THE NEW YORK ACADEMY OF MEDICINE'S COUNCIL.

ONE of the most interesting episodes in the late cholera fiasco in New York has come to our knowledge, and is another evidence that that spirit of intolerance which sent thousands of unfortunate human beings to the block, the rack, and other tortures, is not dead yet, and sternly reminds the liberty-loving element in our profession to sacredly guard the liberties of every member in it.

It appears, then, late in the Summer of '92, when the cholera scare was in full blast, a young man, quite unknown, out of New York, with the consent of Dr. Loomis, president of the New York Academy of Medicine, it is supposed, called a meeting of the members of the Academy of Medicine to consider measures against cholera, etc.

Nothing however was done at the meeting, except to approve of the appointment of a committee, which had been previously selected by the Chamber of Commerce.

It appears that among other things against which this august body launched its shafts was the importation of rags. Dr. McLean Hamilton particularly condemned the practice of permitting this sort of rubbish to come into our ports; as, of all things in the world, the fever laden rag was the most diabolical. About this time, Dr. S. T. Armstrong, in a letter published in the New York *Medical Journal*, most strenuously denied that an epidemic of any kind ever was disseminated through the United States, by imported rags; and repudiated the views of Dr. Hamilton. The latter, in a rejoinder to another missive by Armstrong, drifted off from the main question and failed to meet the challenge.

But Dr. Armstrong committed the hideous offense of signing himself as the Chairman of the section on Public Health of the Academy of Medicine.

Now, the Select Committee, or its cohorts, in order to throttle free-speech and make an example of a member, who had the courage of his convictions, induced the council of the New York Academy of Medicine to order Dr. Armstrong to appear before it for trial, on the cowardly subterfuge that he had violated the code of ethics, in affixing his title, as chairman of the Public Health section, to an article which appeared only in the medical journals.

But the New York Academy of Medicine has no code, and hence the Doctor's judges were in a quandary at the start. But Dr. Armstrong may be depended on to defend himself in a manly and honorable manner. If what has come to us can be substantiated, no wonder the Academy is threatened with disintegration and ruin; for Dr. Armstrong is well and widely known, in the Marine Hospital Service, as Secretary of the section of Public-Health, in the American Medical Association and now, as visiting physito the Harlem Hospital, and, he has done nothing derogatory to the high position which he deservedly occupies in his profession.

As to this farcical charge, about appending his position in the Academy, if it were enforced, where would all our authors of any note or distinguished merit land? It is always unfortunate that occasion ever arises when it becomes necessary to discipline or humiliate a brother practitioner; but let the profession in New York, Chicago or any other great American city take warning that the necessity must be urgent and imperative to justify it, when it undertakes to institute a new inquisition among us; for though they may locally crush the feeble and independent, the whole united profession of this great country will raise its voice in defense of the weak, and wreak its vengance in such a manner and at such a time as will leave no doubt of its purpose.

SALTING STREETS TO REMOVE SNOW.

LATELY the residents of one of our fine streets became very much agitated, because the company that was operating a line of coaches thereon used salt to remove the snow that was making travel difficult. They stated many dangers and nuisances that arise from this practice. The professional men of that thoroughfare were interviewed by the daily papers, and many and varied were the statements they made. Some claimed that it was injurious to health, increasing the severity of many of the diseases in the neighborhood by the dampness, as a consequence of the melting snow. Others claimed that the slush and mud were carried into the houses, producing filthiness and increasing the danger of infection. On the other hand, some reputable physicians declared that the use of salt in removing snow from the street was not injurious to health, but absolutely beneficial, owing to the chlorine gas that was given off from the action of melting snow with salt. The presence of this gas in the atmosphere, it was stated, tended to purify the air and remove the cause of diseases. Again, the poor horses would be benefited very much, because of the greater ease with which they could drag their heavy loads through the melting snow.

These statements many of our daily papers published, and were read by great numbers of people as the truth, never thinking, or entirely ignorant of the real action of salt with snow or ice, or why it is detrimental to health.

The salt that is commonly used is sodium chloride, and the fact that we have chlorine here in combination, led to this mistake in assuming that this gas is evolved in the melting snow. Other soluble salts, such as the nitrate and carbonate of sodium, potassium, and ammonium, may be used, and no gas will be evolved or generated, and the process of melting is even more complete than in the former case. Admitting that chlorine, which has a very disagreeable and pungent odor, imparting a yellowish-green color to the atmosphere in which it is liberated, does escape from the mixture in the street, we would very soon become cognizant of its presence from this very fact. Moreover, its inhalation in such quantities as it would be formed from the surface of a wide street, is capable of setting up such bronchial and pneumonic irritation as to produce symptoms of severe bronchitis and pneumonia.

Again, the bleaching properties of chlorine would assert themselves by destroying the color of everything within its reach. Still more, if this gas were evolved in the presence of the water produced as a result of the melting process, we would have hydrochloric acid formed, and anything that came into the street, such as the iron and paint on the vehicles and horses, the clothing on the persons crossing the street, and even the pavement, would suffer from its corrosive action.

There is no chemical action whatever in this case and in order to produce chlorine from sodium chloride there must be present a sufficient quantity of manganese dioxide and heat. The action is physical and either substance remains unchanged in its chemical properties, the snow or ice becomes liquefied and changed into water, and the salt is dissolved therein.

What is the true theory of this process of melting? There is a law in physics, stating that pure water freezes at 32° Fahrenheit, but water containing solids in solution freezes at a lower temperature; and the greater the amount of solids held in solution the lower is the freezing point. Conversely pure water melts at 32° Fahrenheit, and water containing solids in solution melts at a lower temperature. Liquids freeze and melt at the same sensible temperature, which is the freezing point for that liquid. This is owing to the latent heat contained in the water, that is not perceptible to the thermometer, as only the sensible heat can be registered. Hence when a liquid freezes it loses latent heat, and when it melts it takes in the same amount that it lost when freezing and this heat is drawn from surrounding bodies. Sea water, therefore, does not freeze or melt until + 27° Fahrenheit has been reached, and a saturated solution of common salt in water does not freeze or melt until we have a temperature as low as +10°. The fact is, the more soluble solids we add to the water, the more we depress the freezing point.

Snow or ice is at a temperature of 32° Fahrenheit; add salt, thereby reducing the freezing or melting point, and we liquefy the solid snow or ice. If, however, the temperature of the surrounding air is lower than the freezing point of the melting mixture, we cannot accomplish this liquefaction. The temperature of snow never falls below 32° Fahrenheit in ordinary conditions, no matter how cold the air is, hence we do not experience the cold in our feet as we would feel if it fell as low as the surrounding temperature. Therefore reducing the temperature of the snow over which we must walk, by adding salt, we step into water colder than the air about us. Still further, during the process of liquefaction, the snow draws heat from everything about it in order that it can melt, just as the salt and ice in an ice cream freezer congeals the cream by drawing heat therefrom in order that the salt and ice mixture can melt, for it is separated from the air by the non-conductible wooden tub. Just so, in stepping into such a mixture on the street, heat is drawn from our feet and in this way acts injuriously on our health. The poor horses plodding through this slush, undoubtedly suffer intense pain from the extreme cold, and besides the snow will fasten to their hoofs so tightly that even a hammer and chisel cannot remove it. In this way they are impeded in their progress, and the cutting of the sharp ice and the expansion of the hoof by the intensely cold ice, adds greatly to their sufferings. The practice of salting streets should be prohibited and the laws on this point enforced. We have laws; but the ignorance of many and even of medical men, of the process of melting ice or snow by salt and the dangers of this practice, aside from the nuisance of dirt and slush, allows of this negligence: It may not be ignorance as much as thoughtlessness; and probably a few points bearing on this subject, suggested to the proper authorities, may remind and recall these facts in such a manner that we may at least have comfort, if not freedom from the injurious effects of salting streets.

SAMUEL P. GERHARD, M. D.
613 N. 16TH STREET.

ENCLOSED find 10 cts. for which please send me The TIMES AND REGISTER of January 6th, "Phthisis" special. I received a sample of the "Typhoid Fever" special and most heartily endorse the antiseptic treatment which it promulgates. I had about

twenty five cases in my territory last fall and naturally was led to drift to that plan of treatment, using calomel, salol and pepsin with all recoveries. I will try the sulpho-carbolate in next case. Hope the antiseptic treatment of phthisis will be as successful.

D. H. NUSBAUM, M. D.

CULLOM, ILL.

LACTIC ACID TREATMEMT OF CHOLERA.

THE "Société médicale des hôpitaux" and the "Société médicale" of Paris discussed in several sessions the Cholera, which for a number of weeks has claimed daily from twenty to thirty victims in the French Capital. Professor Netter declared in the form, that the genuine Cholera, connected with the Comma bacillus, is existing alongside of other intestinal disorders of choleraic type. The latter society, after long deliberations, recommend lactic acid as the best remedy, which has been successful in combating not only choleraic, but real cholera-diarrhœa, in the proportion of 10 gram of the acid to 20 of syrup and 2 Tct. cort. aurant., dissolved in a liter of water. Dose: three tablespoonfuls every fifteen minutes.—(Correspondenzblatt fur Schweizer Aerzte).

[In keeping with the foregoing an Armenian physician Dr. Markar G. Dadirrian (a graduate of the N. Y. Medical College) told me that in Asia Minor fermented milk is extensively used by the natives in treating cholera cases and as a preventive.—S. V. CLEVENGER.]

DESIRING some information and not knowing of so good a source as yourself, I beg leave to occupy a few of your spare moments.

1. What is your opinion of the atmospheric tractor; price of same; and is it suitable for a country doctor?

2. Where can it be obtained?

3. What is your treatment of the opium habit, and can it be applied at the patient's home?

* * *

[The tractor acts like the toy we boys knew as a "sucker." It is a thick rubber cup, with a handle. Applied to the presenting surface of a child's head, it adheres firmly enough to allow a pull of about 28 lbs. before pulling loose. This, added to the mother's efforts, is often enough to pull the head through, when but little help is needed. But the time a woman needs help is when it requires about 250 lbs. of a pull; and the tractor is then useless. Personally, I use the forceps; but an inexperienced obstetrician may do a deal of harm with them, and can do none with the tractor. The price of the tractor is $3.00.

2. The tractor can be obtained through this bureau.

3. My treatment of the opium habit it is impossible to give in detail, as it is simply the application of physiological therapeutics to each patient, and differs in each case. It cannot be successfully applied at the patient's home. The separation from home and business worries, and the exclusive devotion to the cure, are prerequisites to success.—W. F. W.]

THE CONTAGIOUSNESS OF PHTHISIS.

I HAVE long been convinced that much of the argument in favor of the contagiousness of consumption is flimsy, loose, and artificial; and Dr. Flick's article in your issue of the 6th instant confirms me further in this opinion. On page 10, he states that the theory that those who are connected with consumptive hospitals are as free from consumption as those outside, must be given up; because Dr. Williams, of the Brompton Hospital had shown in the *British Medical Journal* of September 1882, that twenty-one positive and five doubtful cases of phthisis had up to that time occurred among persons who had been connected in one sphere or another with that Hospital. In looking over Dr. Williams' paper I find that of the 345 persons who are on record as having been connected with the Brompton Hospital in thirty-six years, the length of time which it had then existed, seventeen and not twenty-six became consumptive. It is not a question of number, however, or whether those who have ever been in consumption hospitals fall victims to this disease, but whether it can be shown that they contracted the disease through infection within the hospital. This is the point at issue, and, in regard to it, Dr. Williams expresses himself in language that should not be mistaken by the most superficial observer, and which, on account of the sacred interests involved, and for the sake of accuracy and scientific integrity, no one can afford to overlook or to ignore. Dr. Williams concludes his paper as follows: "The evidence of large institutions for treatment of consumption, such as the Bromp-

ton Hospital, *directly negatives any idea* (italics mine) of consumption being a distinctly infective disease, like a zymotic fever. Phthisis is not, in the ordinary sense of the word, an infectious disease: the opportunities for contagion being most numerous, while the examples of its action are exceedingly rare." Only on the score that fiction is taken for truth, or assertion for fact, can one endure himself to believe that the above quoted conclusion implies that consumption hospitals communicate consumption to the well, and that the argument of the non-contagiousness of consumption, therefore "falls to the ground." This same Dr. Williams says (*Pulmonary Consumption*, pp. 87 and 88, published in 1887): "Infection in the wards between consumptive and non-consumptive patients is unknown. . . . My own experience is that for the last twenty years I have carefully watched for cases of infection in hospital and private practice, and though I have come across a certain number of apparent cases, they have never stood the test of close inquiry, there being always some additional element to explain the causation of disease."

THOMAS J. MAYS, M. D.

END YOUR PAPER WITH A SUMMARY.

IN the April 9th, 1892, number of the TIMES AND REGISTER, you have an article on "Acne," which is highly instructive; but the beauty of it consists in the summary. No article of any length should be written in these times without such a summary. We are overrun with literature; and no one can begin to read it all. No text book should be written unless all the articles end with a summary.

C. M. RULISON, M.D.

1. I want a work on obstetrics; not too large. What is the best?

2. What are the best dosimetric granules to order? I now have two cases, containing: aconitine, strychnine, glonoin, digitalin, copper arsenite, codeine, caffeine, calomel, atropine, apomorphine, caffeine arsenite, zinc sulpho-carbolate.

3. What is the next best book on dosimetry (I have your Manual)?

4. What do you think of papoid? Dr. Owen thinks it is a trump. Shall I play trumps first, to lead off?

I am well pleased with the TIMES AND REGISTER.

Z. W. MILLAR, M.D.

THACKERY, ILL.

[1. Lusk or Parvin will prove satisfactory.

2. For winter use, you should add to your list ammonium iodide, aristolochin, aspidospermin, cotoin, creasote, Dovers' eucalyptol, eupatorin, gelseminine, guaiacol, hydrastine, ipecac, lobelin, macrotin, myrtol, pilocarpine, potas. cyanide, sanguinarine and tartar emetic.

I employ nearly all those enumerated in the Manual.

3. Burggræve's manual is much more extensive than mine. It can be obtained of E. Fougera, 30 N. William Street, N. Y. City.

4. If Owen says papoid is a trump it must be true; for Owen is that sort of a man. I have used it mostly for men who *will* go out at night and eat lodge suppers; lobster salad especially; and for them I always recommend a tablet or two of papoid. But, mainly because I am slow to use new things when the old are good enough, I have not substituted papoid for pepsin in ordinary practice.—W. F. W.]

TIME WILL CURE HIM.

I AM 22 years old and have a hare-lip which leaves a small scar. I am raising a mustache, which I do not think will quite hide it. Could I get about half a dozen hairs inserted in the scar so they would grow? If so, could I come at night or would it require day?

SCANTY URINE.

I HAVE been troubled about five years with a urinary difficulty, passing insufficient urine, about twenty to thirty ounces daily, very concentrated, sp. gr. usually from 1020 to 1028. Upon adding an equal quantity of nitric acid, crystals of nitrate of urea will form, sometimes in a few hours nearly making the liquid solid. No sugar or albumen has ever been found. It causes a dull ache in the back; digestion fair, bowels regular. One peculiarity is that the urine is often quite pale in appearance although of high sp. gr. and scanty. It is also irritating, desiring to pass it after only an ounce or two has accumulated. My hands and feet get cold at times, but after I am in bed awhile my feet get hot, and I must put them outside the cover. My mouth is dry, but I have no excessive thirst.

Once in a while there is a deposit of urates, but not often; the urine remaining clear.

For this trouble I have taken considerable citrate of potassium, with large quantities of water. This increases the flow to from forty to fifty ounces per day, with sp. gr. of from 1012 to 1014. I feel somewhat better while taking it, but as soon as I stop its use the old condition comes back. I think I am troubled more in winter than in summer, though not much. It seems to be worse this winter than formerly. I do not lose weight, and seem to be in good health; except the back-ache. I weigh 155 pounds, am forty years old, and use no liquors of any kind. I use but very little meat, and drink mostly milk lately. I should be very glad to receive any information you might give me on the subject.

J. OETTIKER, M. D.

PLATEVILLE, WIS.

[Take atropine, gr. 1-125, ter in die, eat plenty of fruit, but little meat, no pork, veal, cheese, beans or peas. Take a glass of hot Bedford water before each meal.—ED. T. & R]

News.

THE PROPOSED MEDICAL EXAMINERS' ACT.

AN Act to establish a State Board of Medical Examiners and Licensers and to define the powers and duties of such board.

WHEREAS, The safety of the public is endangered by incompetent physicians and surgeons, and due regard for public health and the preservation of human life demands that none but competent and properly qualified physicians and surgeons shall be allowed to practice their profession.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania in General Assembly met, and it is hereby enacted by the authority of the same,* That within one month after the passage of this act the Governor shall appoint a State Board of Medical Examiners and Licensers, consisting of nine members, three to serve for one year, three for two years, and three for three years, in the first instance; and thereafter annually the Governor shall appoint, by and with the consent of the Senate, three members to serve for three years in place of those whose terms then expire. The said persons so appointed shall be graduates of some legally chartered college or university having the power to confer medical degree, citizens of the United States, and of this Commonwealth, who shall have been in the active practice of medicine or surgery for a period of not less than ten years, but no two of whom shall be residents of the same county, and none of whom shall be a member of the faculty or staff of any medical school or university. Each member of the said board shall receive a certificate of appointment from the Governor, and shall file the same within twenty days with the prothonotary of the court of common pleas of the county in which said member is registered under existing law.

SECTION 2. The said board shall be known by the name and style of the State Board of Medical Examiners and Licensers of the Commonwealth of Pennsylvania, and shall have a common seal, and may make and adopt all necessary rules and regulations and by-laws not inconsistent with the Constitution and laws of this Commonwealth, or of the United States, and shall have power to locate and maintain an office within this State for the transaction of business. Five members of the said board shall constitute a quorum for the transaction of business.

SECTION 3. Every appointment to fill a vacancy or vacancies in the said board shall be for the unexpired term, and the said vacancy or vacancies shall be filled by the Governor within sixty days after notification of the same by the board, and he shall have power to remove any member of said board for criminal, scandalous or dishonorable conduct.

SECTION 4. The said board shall organize at Harrisburg within three months from the date of its appointment, and shall elect from its own number a president and secretary who shall also act as treasurer, both of whom shall hold their offices for one year, or until their successors are chosen.

SECTION 5. The members of the said board shall each receive a salary not exceeding three hundred dollars per annum, to be paid out of the fees for examination. The secretary and treasurer shall receive an additional salary, to be fixed by the board, and shall file with the president of the board a bond in the sum of one thousand dollars, conditioned for the faithful performance of his duties. The necessary expenses of the said board shall also be paid out of the fees, and any balance remaining from the fees after the disbursements herein specified shall be paid into the treasury of the Commonwealth.

SECTION 6. The said board shall examine all applicants for license to practice medicine or surgery in this Commonwealth who are properly qualified according to the provisions of section seven of this act, and no one shall be excluded or rejected on account of adherence to any special system or school of practice. It shall hold two stated meetings in each year, one at Pittsburg and one at Philadelphia respectively, and may hold special meetings at such times and places as it may deem proper. All examinations, when practicable, shall be conducted in writing, and all examination papers, together with the reports and action of the examiners thereon, shall be preserved among the records of the said board for a period of five years, during which time they shall remain open for inspection at the office of the said board.

The applicants shall be examined in anatomy, physiology, chemistry, pathology, hygiene, toxicology, differential diagnosis, surgery, and obstetrics; and each applicant, upon receiving from the secretary of the board an order for examination, shall draw by lot a confidential number, which he or she shall place upon his or her examination paper, so that when said papers are passed upon by the examiners the latter shall not know by what applicant said papers have been prepared, and upon each day of examination all candidates shall be given the same set of questions.

SECTION 7. Any person on paying ten dollars to the secretary of said board, and on presenting satisfactory proof of being over twenty-one years of age, of good moral character, and of having received a sufficient preliminary education as defined by said board, and a diploma from some legally incorporated medical college or university having authority to confer degrees in medicine, shall be entitled to examination by the said board, and in case of failure at any examination shall have the privilege of subsequent examinations without the payment af an additional fee. Each applicant who shall have passed a satisfactory examination shall receive from the said board under seal a license to practice medicine and surgery in the Commonwealth of Pennsylvania, and the said board may at its discretion grant licenses without examination to persons holding, licenses from similarly constituted boards of examiners or boards of health in other States.

SECTION 8. The secretary shall record in a book to be kept for this purpose in the office of the said board the name, age, sex, residence, date, and place of examination, the examination number, the examination average on each branch, the general average, and date of issue of license in case such license is granted. Said book shall be open to public inspection and on or before the last day of December of each year the said board shall publish or cause to be published a list of the names and addresses of such persons as shall have received licenses from the said board within twelve months immediately thereto preceding.

SECTION 9. After the first day of July, Anno Domini one thousand eight hundred and ninety-three, no person shall enter upon the practice of medicine or surgery in the State of Pennsylvania unless he or she has complied with the provisions of this act, and shall have exhibited to the prothonotary of the court of common pleas of the county in which he or she desires to practice medicine or surgery a license duly granted to him or her by the said State Board of Examiners and Licensers, whereupon he or she shall be entitled, upon payment of one be duly registered in the office of the dollar, prothonotary of the court of common to pleas in said county, and any person violating any of the provisions of this act shall be guilty of a misdemeanor, and upon conviction thereof in the court of

quarter sessions of the county where the offense shall have been committed, shall have been committed, shall pay a fine not less than one hundred dollars nor more than five hundred dollars for each offense, one-half of which fine shall be paid to the prosecutor.

SECTION. 10. Nothing in this act shall apply to commissioned medical officers of the United States Army or Navy, or of the United States Marine Hospital Service, nor to any member of the house or resident staff of any legally chartered medical college or university or hospital during his term of service therein, nor physicians of other States meeting duly registered physicians of this State in consultation, nor to those practising dentistry exclusively. And nothing in this act shall be construed to prohibit the practice of medicine and surgery within this Commonwealth by any practitioner who shall have been duly registered before the first day of July, Anno Domini one thousand eight hundred and ninety-three, according to the terms of the act entitled "An act to provide for the registration of all practitioners in medicine and surgery," approved the eighth day of June, Anno Domini one thousand eight hundred and eighty-one.

SECTION 11. For the purpose of this act the words "to practice medicine or surgery" shall mean to treat, operate on, or prescribe for, any physical ailment of another, for money, gift or reward. But nothingin this act shall be construed to prohibit service in cases of emergency or the domestic administration of family remedies.

SECTION 12. All acts or parts of acts of Assembly inconsistent herewith shall be and are hereby repealed.

CARE OF THE SKIN.—Cosmetics, the best of them, are of doubtful utility; and where powder is necessary, it should be always carefully washed off at night, as it clogs the pores of the skin, writes Mrs. M. P. Handy, in the January *Ladies' Home Journal*. Egyptologists tell us that the Egyptian princesses owed the smoothness of their skins to a preparation much like the glycerine and rose-water of our day. Regular exercise in the open air is another great point. English women of the upper classes think nothing of a five-mile tramp in any weather, and come in fresh as daisies after it. The diet, also, should be regulated. Pastry, cake, rich food of all sorts, tells unfavorably upon the complexion.

The Doctor's Weekly says $15,000 are spent every day in the New York saloons for the privilege of using their urinals. How many men contract the habit of drink in this way it would be difficult to estimate. Our temperance societies could take this matter up with benefit.

THE DYING DOCTOR.

"Steady! go slow, my bonnie mare—
The road is rough, and overhead
Clouds low'r, the weather is not fair,
And you and I should be in bed.
Whoap! You go too fast a gait;
We'll get there soon. The night I know,
Is wild and rainy, and 'twas late
The call came, bonnie—Whoap! go slow.

Slower! I say. The deep'ning shade
Of night hangs like a darksome pall,
And, tho' I know the way, you jade!
Go slow! I cannot see at all—
Well do your best. While I can hear
The purring sulky-wheels go 'round,
I'll trust your eyes, and never fear,
For they, I know, are good and sound.

What need I fear on such a night,
Or such a road? I've ridden miles enough
On nights like this—no stars in sight—
To almost span the earth; and rough
The weather seemed. But oh, I'm cold,
So cold to-night. I should have staid,
Perhaps—as I'm growing old—
At home—Move on, my bonnie maid!

This gait would suit me once, but now
My eyes seem growing dim; and still
The mare sees well, and is not slow
To pick the road, or climb a hill.
'Tis inky dark to-night, and tho'
I cannot see my hand before
My face, that mare, I surely know,
Will keep the road. Ah she's a goer!

Go on, my beauty! I don't hear
The patter of your hoofs, and yet
I know that we are flying—Queer
That I don't see the lights! My pet
Go on! go on! We'll soon be there,
And then, warmth, and a light will come.
Go on! go on! my bonnie mare!—
Aha! A light! We're home! We're home!"

—*Ex.*